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ABSTRACT

A salient characteristic of the morpho-lexical systems of the Salish languages is the widespread use of reduplication in both derivational and inflectional functions. Salish reduplication signals such typologically common categories as "distributive/plural," "repetitive/continuative," and "diminutive," the cross-linguistically marked but typically Salish notion of "out-of-control" or more restricted categories in particular Salish languages. In addition to these functions, reduplication also plays a role in numeral systems of the Salish languages. The basic forms of several numerals appear to be reduplicated throughout the Salish family. In addition, correspondences among the various Interior Salish languages suggest the association of certain reduplicative patterns with particular "counting forms" referring to specific nominal categories. While developments in the other Salish language are frequently more idiosyncratic and complex, comparative evidence suggests that the system reconstructible for Proto-Interior Salish may reflect features of the Proto-Salish system itself. (Contains 31 references.) (Author/MSE)

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ED 419 409

Reduplicated Numerals in Salish

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1 Introduction

One of the salient characteristics of the morpholexical systems of the Salish languages is the widespread use of reduplication in both derivational and inflectional functions. Salish reduplication signals such typologically common categories as 'distributive/plural, 'repetitive/continuative', and 'diminutive', the cross-linguistically marked--but typically Salish--notion of 'out-of-control' (Carlson and Thompson 1982; Kroeber 1988; van Eijk 1990)[1], or more restricted categories in particular Salish languages, for example the association of the historically diminutive reduplication pattern with a first singular referent in Shuswap (Anderson 1996). In addition to the above functions, reduplication also plays a role in the numeral systems of the Salish languages. The basic forms of several numerals appear to be reduplicated throughout the Salish family. In addition, correspondences among the various Interior Salish languages suggest the association of certain reduplicative patterns with particular 'counting forms' referring to specific nominal categories. While the developments in the other Salish languages are frequently more idiosyncratic and complex, comparative evidence suggests that the system reconstructable for Proto-Interior Salish may reflect features of the Proto-Salish system itself.

2 Reduplicated Simplicia

Throughout the Salish language family , there are numbers whose basic forms are inherently reduplicated. For example, in the Interior Salish languages numbers for '7', '9', and multiples of '100' are attested in reduplicated base forms in both Northern Interior Salish (e.g. Shuswap (Kuipers 1974) and Thompson River Salish (Thompson and Thompson 1996)) and Southern Interior Salish (e.g. Kalispel (Vogt 1940), Spokane (Carlson 1972, Carlson and Flett 1989), Coeur d'Alene (Reichard 1938), and Columbian (Czaykowska-Higgins 1993, Kinkade 1982)), without necessarily having cognate morphemes involved.

(1)

Shuswap	*cucɬke?*	'7'
Spokane	*sisp'əl*	'7'
Shuswap	*tmɬnk'ʷuk*ʷ*ɬe*	'9'
Kalispel	*χχan'ut*	'9'
Coeur d'Alene	*m'əm'əsqən'*	'400'
	cucən'txtm'qən'	'700'
Thompson	*χəcpqlqn'kst*	'100'
Columbian	*xəccakst*	'100'

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Other reduplicated simplicia of numerals can be found in the Interior Salish languages as well (2):

(2)

Shuswap	*səsele*	'2'
Columbian	*musəs*	'4'

The majority of forms listed in (1) and (2) above appear to be formally of the *CV- type; this is signaled not only by the presence of the *C(V)- reduplicated affix but also by the glottalization of resonants in Coeur d'Alene (*m/n* > *m'/n'*) and the deglottalization of obstruents in Shuswap (*k‴* >*k'*) that is characteristic of these languages with this reduplicative pattern (Reichard 1939; Kuiper 1974). The relevant reduplicated simplicia in (Moses-)Columbian, on the other hand, appear to be formally of the *-VC type.

Other Salish languages likewise exhibit particular numerals whose unmarked forms are reduplicated. For example, in the Coast Salish language Twana (Drachmann 1969), the basic form of '4' is of the *-VC reduplicated shape, while in the Tsamosan Salish language Upper Chehalis (Kinkade 1991), one of the words for '1' is historically of the *CV- reduplicated type (3)

(3)

Twana	*busas*	'4'
Upper Chehalis	*ʔəʔc's*	'1'

3 Reduplicated Counting Forms

As is common in many languages of the Pacific rim and adjacent areas, Salish languages possess a highly complicated numeral system with special 'counting forms' for entities of a particular shape/type/class; these can be found in such geographically disparate, genetically unrelated, and typologically different languages as Salish and the Paleosiberian isolate language Nivkh (Gilyak, Krejnovich 1934). In Interior Salish languages, these generally involve two types of reduplicative affixes, viz. *CVC- and *CV-; both of these are attested in the function of creating 'people' counting forms, while the latter is also used in the creation of counting forms for 'animals'. In Coast Salish languages, *-VC reduplication is also used in the formation of numerals for 'people'. In addition, a range of language-specific reduplicated numeral constructions are sporadically attested throughout the Salish family.

The numerals used for counting 'people' in Interior Salish languages were generally formed with a stressed ('strong'[2]) *CVC- reduplicative prefix (and a deictic proclitic in many of the languages).

(4)

Colville	*kmusəms*	'4 people'
	kcilcəlkst	'5 people'
Okanagan	*kmosməs*	'4 people'
Shuswap[3]	*tmusməs*	'4 people'
	tkcilclkst	'5 people'

Thompson	*mosməs*	'4 people'
	ciycikst	'5 people'
	cułcułke?	'7 people'
	ƛ'áq'ƛ'əqmekst	'6 people'
Moses-Columbian	*tk"ínk"inx*	'how many people'

According to Czaykowska-Higgins (1993), in Moses-Columbian *CVC- reduplication, like *-VC and *CV- reduplication, has become a stressed-syllable targeting process rather than a root-syllable targeting one; thus one finds examples like.

(5)

Moses-Columbian	*qaxíl-xil*	'2 people'

In some instances, however, a *CV- affix seems to have been used rather than *CVC- in Interior Salish languages (6).

(6)

Shuswap[4]	*təq'mémkst*	'6 people'
Thompson[5]	*səséye*	'2 people'
	pépye?	'1 person'
	kəkeʔHés	'3 people'
	təmɬpépye?	'9 people'

Both of these patterns have parallels in the Coast Salish languages as well, e.g. Squamish (Kuipers 1967), Tillamook (Edel 1939; Thompson & Thompson 1966), Nooksack (Galloway 1993), Lushootseed (Bates, Hess and Hilbert 1994), Halkomelem (Galloway 1977) or Comox (Sapir 1991).

(7)

Squamish[6]	*t'əq't'aq'ač*	'6 people'
	čnčanat	'3 people'
	nč"nč"u?	'1 person'
	t'ək"t'ak"usač	'7 people'
	təqtqač	'8 people'
	c'əsc'əs	'9 people'
	ʔəpʔapn	'10 people'
	k"ínk"in	'how many people'
Tillamook[7]	*čənča:nat*	'3 people'

(8)

Nooksack	*nənƛ"ó?*	'1 person'
	nenč"ó?	'1 person'

	sɔsæli?	'2 people'
Lushootseed[8]	*bəbuʔs*	'4 people'
	sɔsáʔli?	'2 people'
Tillamook	*sasa:li*	'2 people'
Halkomelem	*lálɔc'ə*	'1 person'
Comox	*pípaʔu*	'1 person'
	sísaʔu	'2 people'

As mentioned above, various Coast Salish languages also utilize *-VC reduplication to create 'people' counting forms, e.g. Lushootseed.

(9)

Lushootseed	*cəlluc*	'5 people'
	ɬix̌ʷxʷ	'3 people'
	χʷəlɔl	'9 people'

In addition to the 'people' counting forms adduced above, reduplication was also used in the Interior Salish numeral system in the creation of of counting forms for 'animals'. These are attested in all the Northern Interior Salish languages and seem to be generally of the historical *CV- diminutive type.[9]

(10)

Lillooet	*pəpala*	'1 animal'
Shuswap	*ʔuʔpəkst*	'10 animals'
	mums	'4 animals'
	kʷɬkʷnx	'how many animals?'
Thompson	*mum's*	'4 animals'
	cúcɬkeʔ	'7 animals'
	ƛ'aƛ'q'm'kst	'6 animals'
	ʔuʔpn'kst	'10 animals'
	sésy'e	'2 animals'
	cəciʔkst	'5 animals'

In one instance, Thompson River Salish seems to have a doubly *CV- reduplicated pattern for an 'animal' counting form, one application of which is apparently of the regular, productive stress-targeting type that is characteristic of the Northern Interior Salish languages, e.g. *keʔlés* '3' > *keƛɬéɬs* '3 animals'.

Similar forms can also be found in Coast Salish languages, e.g Squamish:

(11)

Squamish[10]	*c'ic's*	'9 animals' (< *c'əs*)
	t'at'q'aƛ̓	'6 animals'
	ʔuʔpn	'10 animals'
	t'at'k"usaƛ̓	'7 animals'
	ninƛ̓'uʔ	'1 animal'
	kʷkʷn	'how many animals'

Some Squamish 'animal' counting forms are marked not only by a *CV- reduplicative prefix, but also by the infixation of glottal stop into the stem of the numeral. Such 'interior glottalization' is found in other Coast Salish languages associated with *CV- (or *Cí-) as well.

(12)

Squamish	*cici*ʔ*ačis*	'5 animals'
	*čačn*ʔ*ɬ*	'3 animals'

In some instances, it is in the reduplicated syllable itself that the inserted glottal stop appears; note that in these cases, however, the function of the reduplication is different than in the Squamish examples above.

(13)

Sooke	*hiʔ ɬiʔɬx"*	'3 times'
Lushootseed	*saʔsəliʔ*	'2 small items'
	sɬʔəsəɬliʔ	'2 children'
	bɬʔbuus	'4 little items'

In various Coast and Tsamosan Salish languages, there are a range of language-specific functions of reduplication of numeral stems attested. These are all highly restricted in distribution, often limited to just a subset of numbers in a particular Salish language. Like the 'people' counting forms above, which seem to reflect both *CVC- and *CV- reduplication, these reduplicated numeral forms may similarly exhibit several different patterns within one and the same language. Note that *-VC reduplication is also frequently involved in these formations as well. Salish languages exhibiting such idiosyncratic formations include Lushootseed (Bates, Hess, and Hilbert 1994), Twana (Drachmann 1969), Sooke (Efrat 1969), Squamish (Kuipers 1967), and Upper Chehalis (Kinkade 1991).

(14)

Lushootseed	*bəbúus*	'4 trees'
	sal'sali(ʔ)	'2 by 2'
	dɬdidƛ̓'uʔ	'1 by 1'

(15)

Twana	*č'əʔəʔəs*	'3 by 3'
	c'x"əx"as	'5 by 5'

(16)

Sooke	*hiʔ ɬiʔɬx"*	'3 times'

(17)

Squamish	*t'ək"k"usač*	'7 days'
	təqqač	'8 days'
	ʔaqpən	'10 days'

(18)

Upper Chehalis	*náč'ač'awɬn*	'once in a while'
	čáʔaɬi	'3 by themselves all the time'
	sáʔsali	'2 by themselves'
	nač'awaws	'1 to each'
	cám'ams	'2 to each'
	čanáwaws	'3 to each'
	sálisálčuɬ	'he has 2 wives' (cf. √*cəwɬ* 'wife')

In addition, various Coast and Interior Salish languages also show simple diminutive numbers associated with the historical *CV- pattern.

(19)

Lushootseed	*saʔəli?*	'2 small items'
	blʔbuus	'4 little items'
	clcəlc	'5 small items
Spokane	*m'um'əs*	'4 little ones'
	cicəl	'5 little ones'
	t'at'əq'ən	'6 little ones'

4 Conclusions

Reduplication was a salient part of the morpholexical system of Proto-Salish and its daughter languages, including the numeral systems. It is relatively clear that the use of reduplication to form numerals with specific reference to 'people' and 'animals' was available to speakers of dialects of Proto-Interior Salish. The semantic association of *CV- 'diminutive' reduplication with the 'animal' counting forms is fairly straightforward, and the formally and functionally cognate patterns attested in both Coast and Interior Salish languages suggest that these may reflect a Proto-Salish feature.[11] What pattern to reconstruct for the 'people' counting forms is less clear. It seems that both *CVC- and *CV- were used in Proto-Interior Salish, the latter perhaps conditioned by the phonological nature of a particular numeral stem, or more likely, simply with certain numbers themselves, e.g. '2'; again, parallels in both Interior and Coast Salish languages suggest that these may be old features in the Salish family, possibly dating back to Proto-Salish. The *-VC forms found in such Coast Salish languages as Lushootseed probably represent later innovations. The cognate reduplicative patterns in Shuswap and Kalispel-Spokane in the base forms of '7' and '9' are similarly suggestive of a Proto-Interior Salish feature, but the motivation for the association of *CV- (diminutive) reduplication with these particular

numbers is still unclear, not to mention the fact that cognate morphemes are generally not involved. It is also possible that the unmarked simplicia of certain other numbers may have favored association with particular reduplicative patterns in various dialects of Proto-Salish as well, cf. the correspondence of Columbian Salish *musəs* and Twana *busas* '4', both with *-VC reduplication. Resolving these issues however must await further research.

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[1] 'Out-of-control'-- a complex of notions of 'low transitivity'--is used in the Salishanist literature (e.g. Thompson 1979) to refer to a predicate marked by *-VC reduplication (or various affixes), whose state or result was brought about or achieved accidentally, without the volition of , or otherwise out of the 'control' of the referent that might canonically thought of as being 'in control' of such things, usually the subject, agent, or in the case of Thompson River Salish (Thompson and Thompson 1992), topic of the predicate. Interior Salish examples include Thompson *nmiðiʔ* 'got loose by itself', Shuswap *puk̓ʷúkʷ* 'be spilled', Coeur d'Alene *penʼən'* 'it has come to be bent' or Colville (Mattina 1973) *x̌ʼəlal* 'dead' (< 'still'). The use of this reduplicative construction is most common in Interior Salish, but traces of functionally similar *-VC reduplication can be found in other Salish languages as well (e.g. Twana (Drachmann 1969) *ɬiqʼaqʼ* 'slip' and *kʷəɬaɬ* 'spill', Upper Chehalis (Kinkade 1964) *ðet yəppɬ* 'slowly walk back and forth' and *məccqʷn* 'keeps on grinding it slowly', etc. Kroeber (1988) views the likely proto-semantics to be 'inceptive', not 'out-of-control', for Proto-Salish; van Eijk (1990) isolates two basic functions 'out-of-control' and a 'continuative-telic' aspect.

[2] Salish affixes are grouped into metrical classes according to their behavior in the complex stress assignment systems of the Salish languages; there are (two or) three groups 'strong' or stress attracting, 'weak' or unstressed, and 'variable' or alternatively stressed with weak roots and unstressed with strong ones. As processes of affixation, Interior Salish reduplicative patterns must also be assigned to a given metrical class. Productive *CVC- distributive/repetitive/PL is mostly weak (unstressed) in the Interior Salish languages, except Coeur d'Alene where most examples are strong, and Lillooet where *CVC- is variable (with a phonological reorganization of the stem-classes, see van Eijk 1993). In addition to this *CVC-reduplication there was another semi-productive pattern (so-called 'attributive' (Haeberlin 1918)), that may have been a strong or variable affix in Proto-Salish (e.g. Thompson *zéwʼzuðn* (*wʼ* > *uʔ* when 'vocalized' or in a 'syllabic' position), Lillooet *ʃəlʃəl* 'strong', Okanagan (OCB 1993) *pχpaχɬ* 'smart' or Coast Salish Saanich (Montler 1986) *qʷəlqʷəl* 'talkative'). It seems that the formal shape of the *CVC- reduplication used in the 'people' counting forms (i.e. a 'strong' affix) are more suggestive of the latter ('attributive') type of *CVC- reduplicative pattern.

[3] The formation of reduplicated 'people' numerals is quite idiosyncratic with the reduplicated simplicia in Shuswap. '9' lacks a 'people' counting form altogether, while '7 people' is formed merely by cliticizing the deictic directly to the base form without further reduplication *tkcucɬkeʔ* '2 people' is formed by adding the deictic element to an unreduplicated base form with an unmotivated glottal stop or glottalization: *tkʔsele* or *tkʼsele*.

[4] Note the form with a stress-targeting *ʹ-C(V)- type infixed reduplicative copy--the synchronically productive reflex of the Proto-Interior Salish *CV- (diminutive) prefix in the Northern Interior Salish languages, see Anderson (1996).

[5] Note that in most of these instances, the second stem consonant is a glide. There is also a possible example of *-VC reduplication in a Thompson counting form, or at least the stressed-syllable targeting process that is characteristic of Moses-Columbian and the Northern Interior Salish languages with *CV- and *-VC reduplication. In this form, the distinction between 'animal' and 'people' counting forms has been neutralized (*piðúps* '8' >) *piðuðps* '8 people/animals' (Thompson and Thompson 1996).

[6] In some instances, however, forms that appear to be *CV- reduplicated probably are simply vocalized *C(V)C- reduplicated forms (Kuipers 1967: 149-50), e.g. Squamish *ciciačis* '5 people' (<**c(i)y*) or *χəχaʔucn* '4 people' (<**χəɬ*).

[7] Note the lengthening of the stem vowel in the reduplicated Tillamook forms; cf. the example in (8) as well.

[8] Note the glottal stop that has been inserted in these reduplicated Lushootseed forms. In addition to *CV- and *-VC reduplicated 'people' numerals in Lushootseed, there are also diminutive forms derived from these,

e.g. *sɬʔɔsàli7ʷ* '2 children' or *ɬɬtxʷɬxʷ* ~ *ɬəɬɬʔɬxʷɬxʷ* '3 children'. This glottalization also occurs in other Salish languages, see examples in (12) and (13) below.

[9] *CV- 'dimunutive' reduplication is attested in most Salish languages, e.g. Spokane (Carlson and Flett 1989) *l'ul'ɔkʷ* 'small stick of wood', Shuswap (Kuipers 1974) *sqaqalɔmuxʷ* 'boy', Snohomish (Hess 1966) *kʷikʷɬu* 'little skin' or Bella Coola (Newman 1971) *qʷɬuːqʷɬuluni* 'little beaver' (with *-i* diminutive).

[10] Note that in some of these Squamish forms, and throughout the Coast Salish languages, the *CV- pattern is often more properly analyzed as a CI- reduplication.

[11] For instance '5 cute/little ones' > '5 animals'. While the presence of simple diminutive numbers in Spokane and Lushootseed may indeed represent the earliest system, it is also possible that these are later parallel developments in these two languages.